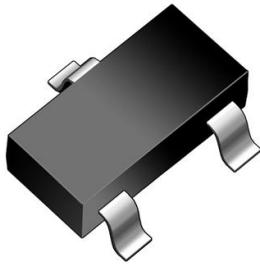


**RoHS**

**Features**



- (16kV) IEC 61000-4-2 Capable
- Fast Reverse Recovery Time
- Fast Turn on Time
- Low Capacitance
- Available in Lead Free Version

**Description**

PTDA70T is steering diodes arrays device designed to provide protection for sensitive components from possible harmful electrical transients; for example, ESD (electrostatic discharge).

**Applications**

- Signal Termination
- Signal Conditioning
- ESD Suppression
- Transient Suppression

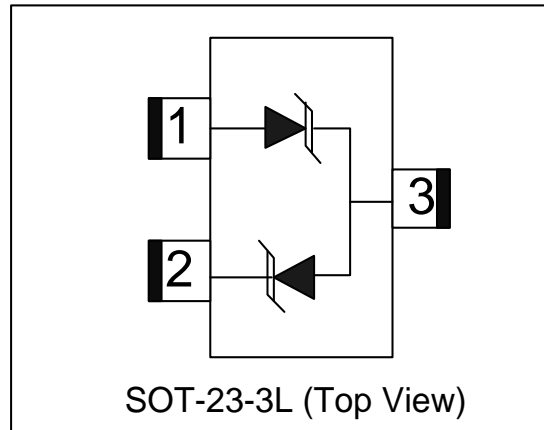
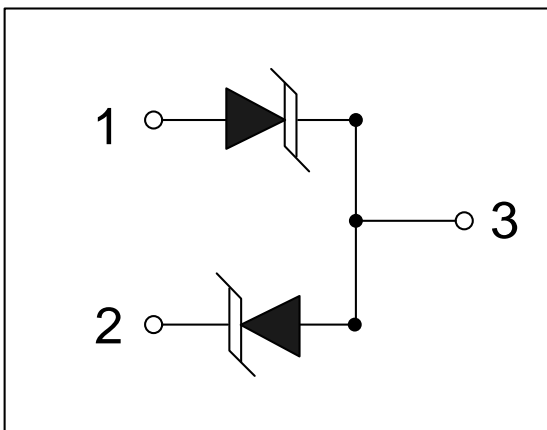
**Complies with the following standards**

- IEC 61000-4-2 level 4 30 kV (air) 15 kV (contact)
- IEC 61000-4-4 level 4 ±2 kV - 40 A (5/50 ns)

**Mechanical Data**

- JEDEC SOT-23-3L package
- Pb-Free, Halogen Free, RoHS/WEEE Compliant
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel

**Schematic & PIN Configuration**

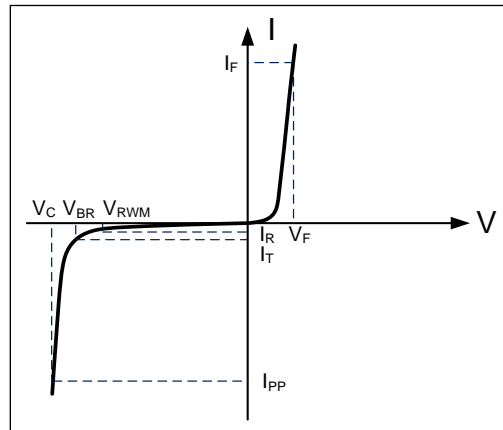


**Absolute Maximum Rating(Each Diode)( $T_J=25^{\circ}\text{C}$  unless otherwise noted)**

Rating	Symbol	Value	Units
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	120	V
Working Peak Reverse Voltage	$V_{RM}$	75	V
RMS Reverse Voltage	$V_R(\text{RMS})$	55	V
Forward Continuous Current (Note 1)	$I_{FM}$	150	mA
Operating and Storage Temperature Range	$T_{STG}$	-65 to +150	$^{\circ}\text{C}$
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	120	V

**Electrical Parameters**

Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$

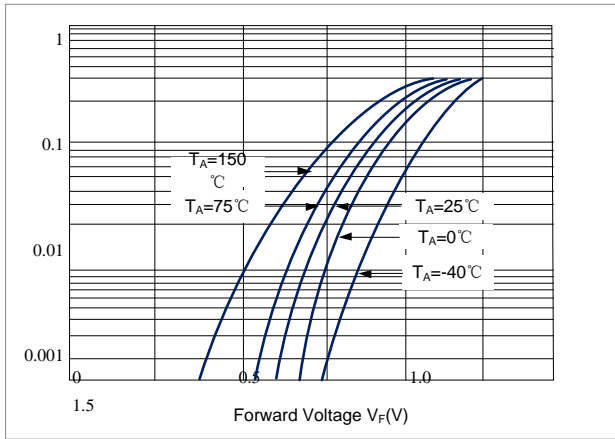


**Electrical Characteristics ( $T_J=25^{\circ}\text{C}$  unless otherwise noted)**

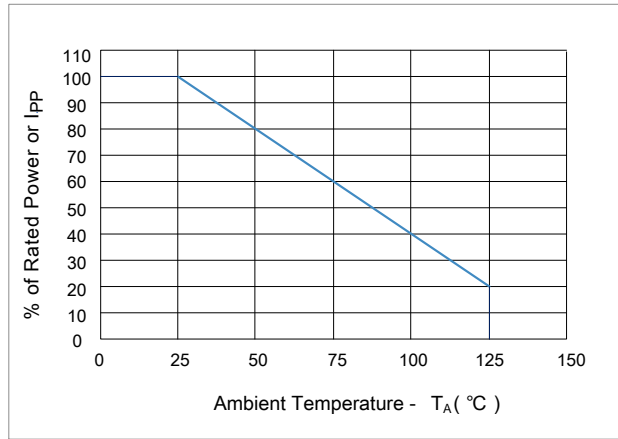
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$	75			V
Reverse Leakage Current	$I_R$	$V_{RWM}=75\text{V}, T=25^{\circ}\text{C}$ $V_{RWM}=20\text{V}, T=25^{\circ}\text{C}$		0.02 8	20	$\mu\text{A}$ nA
Forward Voltage (Fig 1)	$V_F$	$I_F=1\text{mA}$ $I_F=10\text{mA}$ $I_F=50\text{mA}$ $I_F=150\text{mA}$		0.62 0.73 0.85 0.95	0.715 0.855 1.0 1.25	V
Junction Capacitance	$C_J$	$V_R=0\text{V}, f=1\text{MHz}$	-	-	1	pF
Total Capacitance	$C_{tot}$	$V_R=0\text{V}, f=1\text{MHz}$	-	-	0.5	pF
Reverse Recovery Time	$t_{rr}$	$I_F=I_R=10\text{mA}, I_T=0.1I_R,$ $R_L=100\Omega$	-	-	4	ns

**Typical Characteristics**

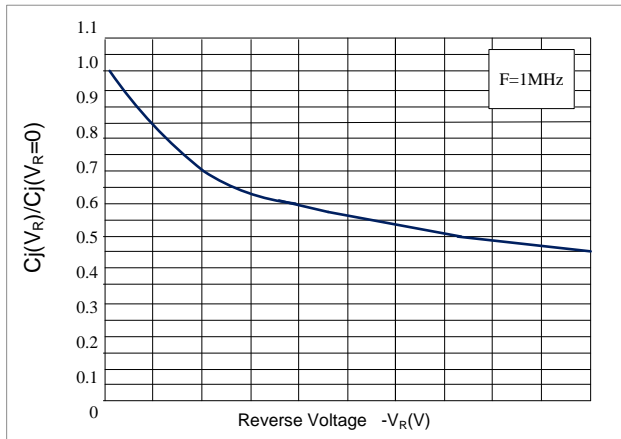
**Figure 1: Forward Characteristics**



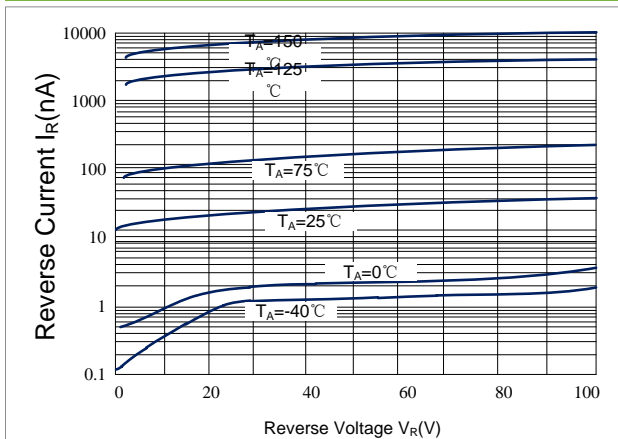
**Figure 2: Power Derating curve**



**Figure 3: Junction Capacitance vs. Reverse Voltage**

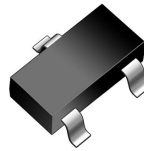
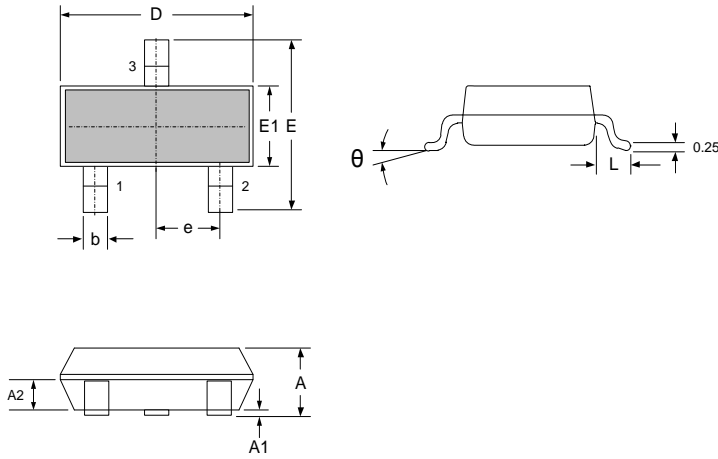


**Figure 4: Typical reverse Characteristics**

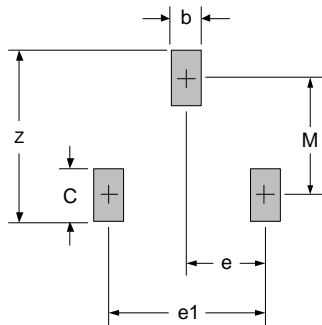


**Outline Drawing – SOT-23-3L**

**PACKAGE OUTLINE**



SYMBOL	DIMENSIONS			
	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
D	2.800	3.000	0.110	0.118
b	0.300	0.500	0.012	0.020
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
e	0.950 BSC		0.037 BSC	
L	0.300	0.500	0.012	0.020
θ	0	8°	0	8°



**DIMENSIONS**

DIM	INCHES	MILLIMETERS
M	0.0795	2.02
C	0.0315	0.8
Z	0.111	2.82
e	0.037 BSC	0.95 BSC
e1	0.075 BSC	1.90BSC
b	0.0315	0.8

**Ordering information**

Order code	Package	Base qty	Delivery mode
PTDA70T	SOT-23-3L	3000	Tape and reel